

OCT 12 2006

10/549,394

RemarksA. Period For Reply

A shortened statutory period for reply was set to expire three months from the Office Action of August 2, 2006. August 2, 2006 plus three months is November 2, 2006. This Amendment and Remarks is being filed on or before Thursday, November 2, 2006.

B. Status

The Office Action was non-final.

C. Disposition Of Claims

Claims 6-14 are pending.

D. Application Papers

The drawings filed on September 14, 2005 were approved in the Office Action of August 2, 2006. This is very much appreciated.

E. Priority under 35 U.S.C. §§ 119 and 120

As indicated on the filing receipt, this case is a 371 of PCT/JP04/04223 filed March 26, 2004.

This case also claims foreign priority from Japanese patent application number 2003-109446 filed April 14, 2003. Acknowledgement of such claim would be appreciated in box 12 on the Office Action Summary. As to such a claim, the Examiner is invited to make reference to the declaration filed in this case.

F. Attachments

Applicant filed one PTO-1449 form in this case (on October 13, 2005). This form has been signed and all of

{18450.DOC} (Amendment and Remarks--page 9 of 18)

10/549,394

listings of references on the form have been initialed.
This is very much appreciated.

G. Basis for specification amendments (if any), claim
amendments (if any) and new claims (if any)

Claim 6 has been amended grammatically and to provide for clear antecedent purposes. Basis for such amendments can be found in claim 6 itself.

Claim 6 now positively recites first and second ends of the straight bottom edge. Basis for such amendments include a) page 9, line 18, b) page 10, line 18, c) the specification as a whole, and d) the drawings.

Claim 6 has further been amended to provide that the first and second projecting edges project obliquely from the respective ends of the straight bottom edge. As to the first projecting edge, basis for the term "obliquely" includes a) page 9, lines 22-28, b) Figures 1 and 8, and c) the specification as a whole. As to the second projecting edge, basis for the term "obliquely" includes a) page 10, line 22, b) Figures 1 and 8, and c) the specification as a whole.

Claim 7 has been amended for antecedent purposes. The term "the" has been replaced with --a--.

Claim 8 has been amended to provide that the "second projecting edge is formed by connecting a pair of straight edges together at an angle" and to replace "a crooked place" with the phrase "an elbow place of said second projecting edge." Basis for such amendments include page 10, line 28 where "angle" is called out and page 10, line 26 where "elbow" is called out.

Claim 9, originally a multiple dependent claim dependent upon another multiple dependent claim (claim 8), has been amended to be dependent only upon claims 6 and 7,

{18450.DOC} {Amendment and Remarks--page 10 of 18}

10/549,394

which are not multiple dependent claims.

Claim 10 has been amended to take features from the body of the claim and insert such features into the preamble of the claim. Claim 10 also grammatically replaces "location" with "structure."

Basis for new claim 11 is claim 9. Claim 11 is dependent upon claim 8, a multiple dependent claim, while claim 9 is dependent upon claims 6 and 7.

Claim 12 relates to the shape of the ant groove. Basis for claim 12 and basis for the above amendment to the specification includes 1) page 6, lines 25-28, 2) Figure 1, and 3) the specification as a whole. The above amendment to the specification includes no new matter.

Claim 13 is new. Claim 13 includes all of the limitations of claim 6 and further includes the limitation that the first projecting edge is one of a) a convex edge; and b) a combination of a convex edge and a straight edge. Basis for such is found 1) on page 9, in lines 22-28 of the specification, 2) in Figure 1, 3) in Figure 8, and 4) in the specification as a whole.

Claim 14 is new. Claim 14 includes all of the limitations of claim 6 except claim 14 deletes the limitation that the second projecting edge is composed of straight lines. However, claim 14 adds the limitation that the second projection edge is one of a) a straight edge; and b) a combination of a pair of straight edges set at an angle to each other. Basis for such is found 1) in the paragraph bridging pages 10-11 of the specification, 2) in Figure 1, 3) in Figure 8, and 4) in the specification as a whole.

{18450.DOC} (Amendment and Remarks--page 11 of 18)

10/549,394

H. The Office Action

H.1. Section 1 of the Office Action

In section 1 of the Office Action, it was stated that the listing of references in the specification is not a proper information disclosure statement and that, unless the references have been cited by the examiner on form PTO-892, the references have not been considered.

Applicant appreciates such being brought to its attention. It is believed that the references noted by the Examiner are "Patent document 1" and "Patent document 2" listed on page 2, lines 15-18 of the specification. These documents are JP-A-510286/1997 and JP-A-130481/2002. These documents were disclosed to the USPTO with the filing of this case on October 17, 2006 and were considered by the Examiner on June 8, 2006. (Please see the PTO-1449 form attached to the Office Action of June 15, 2006.) Nevertheless, applicant appreciates any potential problem noted by the Examiner and brought to applicant's attention.

H.2. Section 2 of the Office Action

In section 2 of the Office Action, claim 9 was objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim.

Claim 9 originally was dependent upon claims 6, 7 and 8. Claim 8 was a multiple dependent claim. Claim 9 has now been amended to be dependent upon claims 6 and 7 only, which are not multiple dependent claims. Claim 11 has been added. Claim 11 is identical to claim 9 except that claim 11 is dependent upon claim 8.

{18450.DOC} (Amendment and Remarks--page 12 of 18)

10/549,394

H.3. Section 3 of the Office Action

In section 3 of the Office Action, claims 6, 8, and 10 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

The Office Action states that "projects outside" in claim 6 is a relative term and further states that the Examiner is interpreting such to mean that the first and second projecting edges to be projecting away from a centerline of the seal material. Applicant has deleted reference to "outside."

The Office Action objected to claim 8 on the basis that it is unclear as to how a pair of straight edges constitutes a convex. The Examiner stated that he is interpreting the claim to include a pair of straight edges making a substantially triangular shape. Applicant respectfully traverses such an interpretation and has amended claim 8 to call out "said second projecting edge is formed by connecting a pair of straight edges together at an angle" basis for which is found on page 10, line 28, of the specification.

The Office Action objected to claim 10 and the Examiner states that he is interpreting the claim to mean that the shape of the seal material corresponds to the shape of the ant groove. Applicant agrees with this interpretation where shape means the ring like shape as viewed from above, not the cross sectional shape where the ant groove takes the cross sectional shape of a dovetail. It should be noted that applicant has amended claim 10 to take features from the body of the claim that relate to the ant groove and place such features in the preamble of the claim.

(18450.DOC) (Amendment and Remarks--page 13 of 18)

10/549,394

H.4. Section 4 of the Office Action

Immediately prior to section 4 of the Office Action, 35 U.S.C. 102(b) and 35 U.S.C. 102(e) were set out.

In section 4 of the Office Action, claim 6 was rejected under 35 U.S.C. 102(b) as being anticipated by Engstrom (US Patent No. 3,909,017). This rejection is respectfully traversed on the basis of applicant's discussion immediately below.

Claim 6 includes the following limitation:

- a straight sloping edge of which one end connects with ~~the~~ opposite an end of said arched convex edge as that is opposite to said first projecting edge and of which the other end connects with said second projecting edge.

It is respectfully submitted that such limitation is not disclosed by the Engstrom reference.

In the Examiner's Attachment A, "E" is asserted to be the straight sloping edge. However, "E" connects to a concave edge of Engstrom, not to the arched convex edge "B." (Such concave edge of Engstrom is the concave edge opposite element 9 in Figure 2 of Engstrom.) Therefore, the Engstrom reference cannot anticipate claim 6. It is thus respectfully submitted that claim 6 is allowable over the Engstrom reference on the basis of this first ground.

Claim 6 further includes the following limitation:

- a first projecting edge which connects with ~~one~~ said first end of said straight bottom edge and projects outside obliquely from said first end of said straight bottom edge.

It is respectfully submitted that such limitation is not disclosed by the Engstrom reference.

"Obliquely" means neither perpendicular nor parallel to a given line or surface; slanting; sloping. Please see the Random House Unabridged Dictionary, 2006. In Engstrom, the first projecting edge "C" as identified in the Examiner's Attachment A extends perpendicularly from the straight

{18450.DOC} (Amendment and Remarks--page 14 of 18)

10/549,394

bottom edge "A." Therefore, the Engstrom reference cannot anticipate claim 6. It is thus respectfully submitted that claim 6 is allowable over the Engstrom reference on the basis of this second ground.

Claim 6 yet further includes the following limitation:

- a second projecting edge which connects with the ~~other~~ second end of said straight bottom edge and is composed of straight lines, ~~that project outside~~ with the second projecting edge projecting obliquely from said second end of said straight bottom edge.

It is respectfully submitted that such limitation is not disclosed by the Engstrom reference.

"Obliquely" means neither perpendicular nor parallel to a given line or surface; slanting; sloping. Please see the Random House Unabridged Dictionary, 2006. In Engstrom, the second projecting edge "D" as identified in the Examiner's Attachment A extends perpendicularly from the straight bottom edge "A." Therefore, the Engstrom reference cannot anticipate claim 6. It is thus respectfully submitted that claim 6 is allowable over the Engstrom reference on the basis of this third ground.

H.5. Section 5 of the Office Action

In section 5 of the Office Action, claims 6 and 8 were rejected under 35 U.S.C. 102(e) as being anticipated by Kane et al. (US Patent No. 6,932,354). This rejection is respectfully traversed on the basis of applicant's discussion immediately below.

Claim 6 includes the following limitation:

- a straight sloping edge of which one end connects with ~~the~~ opposite an end of said arched convex edge ~~as that is opposite~~ to said first projecting edge and of which the other end connects with said second projecting edge.

It is respectfully submitted that such limitation is not disclosed by the Kane et al. reference.

{18450.DOC} (Amendment and Remarks--page 15 of 18)

10/549,394

In the Examiner's Attachment B, "K" is asserted to be the straight sloping edge. However, "K" connects to a concave edge of Kane et al., not to the arched convex edge "12." (Such concave edge of Kane et al. is the concave edge opposite "I" in the Examiner's Attachment B.) Therefore, the Kane et al. reference cannot anticipate claim 6. It is thus respectfully submitted that claim 6 is allowable over the Kane et al. reference on the basis of this first ground.

Claim 6 further includes the following limitation:

- a first projecting edge which connects with ~~one~~ said first end of said straight bottom edge and projects ~~outside~~ obliquely from said first end of said straight bottom edge.

It is respectfully submitted that such limitation is not disclosed by the Kane et al. reference.

"Obliquely" means neither perpendicular nor parallel to a given line or surface; slanting; sloping. Please see the Random House Unabridged Dictionary, 2006. In Kane et al., the first projecting edge "H" as identified in the Examiner's Attachment B extends perpendicularly from the straight bottom edge "G" where "H" extends from an end of "G," which is required by the claim language of claim 6. The portion of "H" where "H" is marked by the Examiner is oblique relative to "G" but this is not the portion required by the claim language of claim 6. Therefore, the Kane et al. reference cannot anticipate claim 6. It is thus respectfully submitted that claim 6 is allowable over the Kane et al. reference on the basis of this second ground.

Claim 6 yet further includes the following limitation:

- a second projecting edge which connects with the ~~other~~ second end of said straight bottom edge and is composed of straight lines, ~~that project outside~~ with the second projecting edge projecting obliquely from said second end of said straight bottom edge.

{18450.DOC} (Amendment and Remarks--page 16 of 18)

10/549,394

It is respectfully submitted that such limitation is not disclosed by the Kane et al. reference.

"Obliquely" means neither perpendicular nor parallel to a given line or surface; slanting; sloping. Please see the Random House Unabridged Dictionary, 2006. In Kane et al., the second projecting edge "J" as identified in the Examiner's Attachment B extends perpendicularly from the straight bottom edge "G." Therefore, the Kane et al. reference cannot anticipate claim 6. It is thus respectfully submitted that claim 6 is allowable over the Kane et al. reference on the basis of this third ground.

Since claim 6 is not anticipated, claim 8 cannot be anticipated. It is therefore respectfully submitted that claims 6 and 8 are allowable over the Kane et al. reference.

H.6. Allowable subject matter

On page 7 of the Office Action, the Examiner kindly provided that claims 7 and 10 would be allowable if rewritten to overcome the rejection or rejections under 35 U.S.C. 112, second paragraph and to include all of the limitations of the base claim and any intervening claims. This is very much appreciated. However, since it is respectfully submitted that base claim 6 is now allowable, new independent claims having the limitations of claims 6 and 7 and the limitations of claims 6 and 10 have not been presented at this time.

H.7. New independent claim 13

New independent claim 13 is presented. Claim 13 includes all of the limitations of claim 6 and further includes the limitation that the first projecting edge is one of a) a convex edge; and b) a combination of a convex edge and a straight edge. Basis for such is found 1) on

{18450.DOC} (Amendment and Remarks--page 17 of 18)

OCT 12 2006

10/549,394

page 9, in lines 22-28 of the specification, 2) in Figure 1, 3) in Figure 8, and 4) in the specification as a whole.

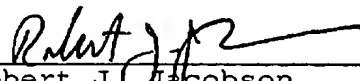
H.8. New independent claim 14

New independent claim 14 is presented. Claim 14 includes all of the limitations of claim 6 except claim 14 deletes the limitation that the second projecting edge is composed of straight lines. However, claim 14 adds the limitation that the second projection edge is one of a) a straight edge; and b) a combination of a pair of straight edges set at an angle to each other. Basis for such is found 1) in the paragraph bridging pages 10-11 of the specification, 2) in Figure 1, 3) in Figure 8, and 4) in the specification as a whole.

J. Summary

The Examiner is respectfully invited to make contact with the undersigned by telephone if such would advance prosecution of this case.

Date: 10-12-2006


Robert J. Jacobson
Reg. No. 32,419

Tel. No.: (651) 699-7900
Fax. No.: (651) 699-7901

650 Brimhall Street South
St. Paul, MN 55116-1511

(18450.DOC) (Amendment and Remarks--page 18 of 18)